

Revised Claims for Application 09/667,408

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I claim:

30. A multifunction data port apparatus with multiple interfaces connected between a digital services network, including the Internet and an intranet, and a utility user's household, said data port comprising:

- a) a utility meter interface able to communicate with a meter for measuring the utility usage in said household of a utility delivered to said household and
- b) a network interface able to communicate with digital service providers and
- c) a household interface able to communicate with household devices of said utility user and
- d) a computer disposed within said data port able to store and process data and other communications from said interfaces.

31. A multifunction data port apparatus as recited in claim 30 wherein said network interface is adapted to process data exchanged at broadband rates with the Internet and digital communications networks, and said computer is programmed to process said data at broadband rates and function as an Internet router.

32. A multifunction data port apparatus as cited in claim 30, wherein said computer comprises a router that is adapted to communicate with a multiplicity of said digital service providers and with said communication and electronic devices located within said utility user's structure.

33. A multifunction data port apparatus as cited in claim 30, comprising a scrambler to encode and decode said communications and data transmitted between said digital

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service providers and said utility user's household, and to store and process said other communications.

34. A multifunction data port apparatus as cited in claim 30, comprising a video processor able to process, store and retrieve video data and signals including modulating and demodulating said video signals and able to convert analog video signals to digital video signals and digital video signals to analog video signals.

35. A multifunction data port apparatus as cited in claim 30, comprising a voice processor able to process, store and retrieve voice data and telephone communication, said voice processor includes

- a) means for transmitting and receiving voice, fax and data information from within said utility user's structure;
- b) means for transmitting and receiving voice, fax and data information from external service providers;
- c) means for transmitting media that includes cellular and wireless transmission, telephone lines, power lines, fiber optic lines and coaxial video cable; and
- d) means for transmitting and receiving voice, fax and data information using voice over Internet protocol.

36. A multifunction data port apparatus as cited in claim 30, wherein said interfaces comprise means of communication to the Internet, and to said digital service providers, is selected from a group of transmission media consisting of fiber optic

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cable, coaxial cable, twisted pair cable, electric power lines, telephone lines and wireless transmission media.

37. A multifunction data port apparatus as cited in claim 30, wherein said computer further comprises a data storage device able to store information and communication received from said interfaces and a battery provides backup power in cases of power outage.

38) A multifunction data port apparatus as cited in claim 30, wherein said computer is programmed to detect a power outage and to retrieve stored digitized voice messages from said data storage device and to communicate said retrieved message to said utility user when said computer detects a power outage.

39) A multifunction data port apparatus as cited in claim 30, with attendant electronics to use the global position system to identify the location of said multifunction data port, and wherein said computer is programmed to detect a power outage and to communicate with said utility company the location of said power outage through said digital services network.

40) A multifunction data port apparatus as cited in claim 30, wherein said computer is programmed to modify the thermostat settings in the utility user's household as a function

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of changes in the cost or availability of electric power in response to communications from the electric utility or the utility user.

41) A multifunction data port apparatus as cited in claim 30 further comprising a seal, and means to detect

- a) any tampering with of said seal of said data port apparatus;
- b) any physical intrusion upon; and
- c) any physical intrusion within said data port apparatus; and wherein said computer is programmed to transmit said evidence of tampering to said utility by way of alarm or other methods.

42) A multifunction data port apparatus with multiple interfaces connected between digital services network, including the Internet and an intranet, and a utility user's household, said data port comprising:

- a) a utility meter interface able to communicate with a meter for measuring the utility usage in said household of a utility delivered to said household and
- b) a network interface able to communicate with digital service providers and
- c) a household interface able to communicate with household devices of said utility user and
- d) a computer disposed within said data port able to store and process data and other communications from said interfaces and
- e) said data port is located in a sealed housing with attendant means to detect any tampering of said seal and

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- f) said computer comprises a router adapted to communicate with a multiplicity of digital service providers and with said communication and electronic devices located within said utility user's structure and
  - g) said computer includes a scrambler to encrypt and decrypt communications between the utility user and said digital service network.
- 43) A multifunction data port apparatus as cited in claim 42 with attendant electronics configured to use the global position system to identify the physical location of said multifunction dataport.
- 44) A multifunction data port apparatus as cited in claim 42, wherein said computer further comprises a data storage device able to store information and communication received from said interfaces and a battery provides backup power in case of power outage.
- 45) A method of conducting transactions optimized by a secure computing environment comprising the step of using the multifunction dataport apparatus of claim 42 comprising:
- a) receiving an authorization for an Internet purchase or financial transaction and a credit or debit card number from the utility user's household together the name of the Internet vendor or creditor and
  - b) encrypting said data port apparatus number;

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- c) encrypting said credit card number prior to transmission of the encrypted card number and data port apparatus number to said vendor or creditor with key known by the financial institution which issued said credit or debit card;
- d) transmitting said encrypted card number and the amount of the purchase or financial authorization to said vendor and the financial institution which issued said credit or debit card and
- e) sending said encrypted card number and authorization for payment by the vendor to said financial institution;
- f) verifying the identity of said dataport apparatus by said financial institution and
- g) selecting the encryption key assigned to said dataport apparatus;
- h) using said key to decrypt said card number;
- i) verifying that said purchase amount reported by said vendor is the same as the amount transmitted by said dataport apparatus;
- j) authorizing said payment when said purchase amounts from said vendor and from said dataport apparatus agree, and the said key decrypts said encrypted numbers from said vendor into a valid set of numbers, and wherein said vendor never has possession of a valid credit or debit card number since said encryption key is changed for each said transaction.

46) A method of conducting transactions optimized by a secure computing environment comprising the step of using the multifunction dataport apparatus of claim 43 to insure that said dataport is physically located in said utility user's

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household by means of the physical location provided by the global positioning system..

47) A method of conducting a secure purchase or other secure transaction by means of using the multifunction dataport of claim 43 as a secure terminal accessing the Internet or other digital service network by means of

- a) utility user transmitting a message from said utility user's household to said secure dataport and
- b) said dataport encrypting said message prior to transmission over the Internet and other digital service networks to party authorized to receive said secure message.
- c) said authorized party sending said message to said secure dataport asking it to transmit to said authorized party the current timing signals from the global positing system and
- d) said authorized party using said timing signals to verify the location of said secure dataport;
- e) said timing signals and location providing said authorized party with said key to decrypt said message.

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- 48) A method for conducting secure computing and transmission of data using the multifunction dataport apparatus in a sealed location of claim 41 by means of
- a) utility user transmitting and receiving data within said utility user's structure from said sealed multifunction dataport and
  - b) said secure dataport transmitting said secure message over a digital service network only if said seal is intact and it does not detect evidence of tampering.
- 49) A method using the multifunction dataport apparatus of claim 41 to control a switch located in the utility meter of said utility customer to remotely turn electric power on and off by means of
- a) electric utility installing said utility meter with said switch to control power in utility user's electric meter box and
  - b) said utility sending commands to said multifunction dataport to transmit through said meter interface to said utility meter the signal to switch on and off the electric power to said utility user's premises.
- 50) The method to communicate financial and other transactions including voting and census registration by the use of said secure dataport and the means of the steps stated in claim 45.



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51) The method of using the multifunction dataport of claim 34 to receive from said digital service networks video communication, games and multimedia.

52) The method of using the multifunction dataport of claim 35 to receive and transmit telecommunication data including voice over Internet protocol, cellular and local telephone services.

53) The multifunction dataport apparatus of claim 42 where said sealed housing provides means by the seal itself for the attachment of the electric meter to the meter box.

54) The multifunction dataport apparatus of claim 42 where said sealed housing is physically attached to the electric meter box

55) A multifunction dataport apparatus as recited in claim 30 comprising  
a) said network interface able to process data exchanged at broadband rates with the Internet and digital communication networks and

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b) said computer able to process said data at broad band rates and function as an Internet router.

56) The method to use the multifunction dataport apparatus of claim 30 as a secure terminal by locating it on power poles in the vicinity of the power distribution lines.

57) A method to use the multifunction dataport apparatus of claim 42 as a secure terminal whereby

- a) said dataport has a serial number known to and registered with financial and other secure institutions at the request of said utility user and
- b) said serial number is used to generate the key to encrypt and decrypt data transmission by said dataport.

58) A method to use the multifunction dataport of claim 32 to sub-meter electric power and provide computer services and access to the Internet and other digital networks by the means of

- a) said dataport being used as a master dataport to the sub-metered dataports attached to the utility meter and housing of each of the said sub-metered dataports and

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- b) providing electrical and other utility services to each utility user in residential and commercial structures where said utility services include cellular and other telecommunication services, Internet access, cable TV, video games and other access to digital networks through said sub-metered dataports.

59) A method according to claim 58 wherein the said multifunction dataport and sub-metered data ports are connected and employed to receive transmissions that monitor the movements of users restricted to their homes or other quarters by legal action or other circumstances including medical disabilities.

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